

GRADE 4 MATHEMATICS NOTES TERM 3

Money and Measurement

1. Understanding Money

- **Money** is what we use to buy things and pay for services. In Kenya, we use shillings and cents.
- **Shillings** are the main unit of money, and **cents** are a smaller unit.
 - 1 shilling = 100 cents.

2. Converting Shillings and Cents

- To change shillings into cents, multiply the number of shillings by 100.
 - Example: 5 shillings = $5 \times 100 = 500$ cents.
- To change cents into shillings, divide the number of cents by 100.
 - Example: 500 cents = $500 \div 100 = 5$ shillings.

3. Creating a Shopping List

- A **shopping list** is a list of items you want to buy.
- You can make a shopping list to help you remember what to buy.
- Example of a shopping list:
 1. Bread – 60 shillings
 2. Milk – 50 shillings
 3. Sugar – 100 shillings

4. Calculating Total Cost

- To find out how much your shopping list will cost, add the prices of all items together.
- Example:
 - Bread: 60 shillings
 - Milk: 50 shillings
 - Sugar: 100 shillings
 - **Total cost** = $60 + 50 + 100 = 210$ shillings

5. Using Money in Real Life

- We use money to buy things we need, like food, clothes, and school supplies.
- It is important to know how much money you have so you can plan your spending.
- When you make a shopping list and calculate the total cost, you are practicing how to manage money.

6. Important Tips

- Always check the prices before you buy.
- Make sure the total cost does not exceed the money you have.
- It's a good habit to save some money instead of spending it all.

By understanding and practicing these steps, you will be able to use money wisely in everyday life.

Geometry: Angles

1. Understanding Angles

- **Angle:** An angle is formed when two lines meet at a point. The space between these two lines is called an angle.
- **Point:** The place where the two lines meet is called the point or vertex.

Example:

- When you open a book, the two covers create an angle at the spine of the book.

2. Identifying Angles in Lines

- To identify an angle in lines, look at where two lines come together.
- The lines can be straight or curved, but they must meet at a point.

Example:

- A pair of scissors when open forms an angle at the point where the blades meet.
- The corner of a table where two edges meet also forms an angle.

3. Identifying Angles in the Environment

- Angles can be found in many objects around us.

Examples in the Environment:

- The corner of a picture frame forms an angle.
- The edges of a door create angles at the corners.
- A slice of pizza has an angle at the tip.
- When a clock shows 3:00, the hands of the clock form a right angle.

4. Relating Turns to Angles

- A **turn** is like an angle because when you turn, you are creating an angle with your body.
- The size of the angle changes depending on how far you turn.
 - A **quarter turn** (90 degrees) is like a right angle.
 - A **half turn** (180 degrees) creates a straight line.
 - A **full turn** (360 degrees) brings you back to your starting point, forming a full circle.

Real-Life Example:

- When you open a door halfway, it forms an angle. The angle increases as you open the door wider.

5. Appreciating the Use of Angles in Real Life

- Angles are important because they help us understand shapes, directions, and movement.
- **Examples:**
 - Architects use angles to design buildings.
 - Carpenters measure angles to cut wood correctly.
 - Athletes use angles to improve their performance, like aiming in sports.

Understanding angles helps us in many activities, from simple tasks like opening doors to complex ones like designing structures.

By the end of these lessons, you should be able to identify angles in your environment, relate turns to angles, and appreciate their importance in everyday life.

Geometry: Plane Figures

1. Identifying Plane Figures

- **Plane Figures** are flat shapes that we can draw on a piece of paper. Common plane figures include rectangles, squares, triangles, circles, and ovals.

Examples in the Environment:

- **Rectangle:** The screen of a mobile phone, a door, or a book.
- **Square:** A chessboard square, a windowpane, or a tile.
- **Triangle:** A road sign, a slice of pizza, or a roof of a house.
- **Circle:** A clock face, a plate, or a coin.
- **Oval:** A mirror, an egg shape, or a balloon.

2. Drawing Plane Figures

- To understand plane figures better, practice drawing them.
 - **Rectangle:** Draw two long sides and two short sides, all at right angles.
 - **Square:** Draw four equal sides with right angles.
 - **Triangle:** Draw three sides that can be of different lengths.
 - **Circle:** Draw a round shape where every point on the edge is the same distance from the center.
 - **Oval:** Draw a stretched-out circle, longer in one direction than the other.

Activity:

- Look at objects around you, then try to draw them, focusing on their basic shapes.

3. Identifying Lines of Symmetry

- **Line of Symmetry:** A line that divides a shape into two equal parts that are mirror images of each other.

Examples:

- **Rectangle:** Has two lines of symmetry (vertical and horizontal).

- **Square:** Has four lines of symmetry.
- **Triangle:** Depending on the type, it may have one line of symmetry (like an equilateral triangle).
- **Circle:** Has infinite lines of symmetry.
- **Oval:** Has two lines of symmetry (vertical and horizontal).

Activity:

- Draw the shapes and try to find and draw the lines of symmetry.

4. Making Patterns Using Shapes

- **Patterns** are repeated designs made using shapes. You can create patterns by arranging squares, rectangles, and triangles in different ways.

Example:

- Arrange squares and triangles in a zig-zag pattern.
- Use rectangles and triangles to create a border design.

Activity:

- Create your own patterns using cut-out shapes or draw them on paper.

5. Identifying Properties of Plane Figures

- **Properties** are the features that make each shape unique.
 - **Rectangle:** Opposite sides are equal, and all angles are right angles.
 - **Square:** All sides are equal, and all angles are right angles.
 - **Triangle:** Has three sides and three angles. The sum of the angles is always 180 degrees.
 - **Circle:** Has no sides or angles. Every point on the edge is the same distance from the center.
 - **Oval:** Similar to a circle but stretched out.

Activity:

- Compare shapes by discussing their properties (like the number of sides and angles).

6. Appreciating the Use of Shapes in Real Life

- Shapes are everywhere and are used in many ways, from designing buildings to creating art.

Examples:

- Architects use rectangles and squares to design rooms.
- Artists use circles and ovals in paintings and logos.
- Engineers use triangles in bridges because they are strong shapes.

By understanding plane figures, you'll notice how these shapes are used in real life to create beautiful designs, strong structures, and useful objects.

Data Handling: Data

1. Identifying Materials for Data Collection and Recording

- **Data Collection:** The process of gathering information or facts.
- **Materials for Data Collection:** Tools and objects that help us gather and record information.

Examples of Materials:

- **Tally Charts:** Use marks to keep count.
- **Questionnaires:** A list of questions to gather information.
- **Checklists:** A list where you tick off items as you count them.
- **Paper and Pencil:** For writing down information.
- **Notebooks:** For keeping all your collected data in one place.

Activity:

- Identify and list the materials you would use to collect data about your favorite fruits from your classmates.

2. Collecting Data within the School Environment

- **Collecting Data:** Gathering information from different sources or by observing.

Examples of Data Collection:

- Counting the number of different types of trees in the school compound.
- Asking classmates their favorite subject and recording the answers.
- Observing and noting down how many students are wearing each color of uniform.

Activity:

- Choose a topic (e.g., favorite sports) and collect data from 10 classmates.

3. Drawing a Table for Recording Data

- **Table:** A way to organize data in rows and columns for easy reading.

Steps to Draw a Table:

- Draw a big rectangle on your paper.
- Divide the rectangle into smaller boxes using straight lines.
- Label the top row with what your data is about (e.g., "Item" and "Number").
- Leave the rest of the boxes for recording your data.

Example:

- If collecting data about favorite fruits:

Fruit	Number of Students
Apples	
Bananas	
Oranges	

4. Recording Data in the Table

- **Recording Data:** Writing down the information you have collected into the table.

Steps to Record Data:

- After collecting your data, write the names of the items in the first column (e.g., "Fruit").
- Write the numbers you counted in the second column (e.g., "Number of Students").

Example:

- After asking classmates their favorite fruits:

Fruit	Number of Students
Apples	4
Bananas	3
Oranges	3

5. Interpreting the Raw Data from the Table

- **Interpreting Data:** Understanding and explaining what the data means.

Steps to Interpret Data:

- Look at the numbers in your table.
- Ask questions like, "Which item is the most popular?" or "How many students like this item?"
- Make conclusions based on the numbers.

Example:

- From the fruit data:
 - Apples are the most popular fruit with 4 students choosing them.
 - Bananas and Oranges are equally liked by 3 students each.

6. Appreciating the Use of Tables in Representing Data

- **Importance of Tables:** Tables help us organize and understand information easily.

Examples in Real Life:

- Tables are used in books and newspapers to show information clearly.
- Teachers use tables to record and compare students' performance.

- Tables are used in shops to keep track of items and their prices.

By understanding how to collect data, record it in tables, and interpret it, you can organize information in a way that is easy to understand and use in real life.